

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Confirmation No.: 7504

Luis Carlos SERNAN-DEZ ARPPE et al.

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Serial No.: 10/526,599

Group Art Unit: 2617

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Examiner: Kwasi KARIKARI

For: DIALING ERROR WARNING SYSTEM AND METHOD

Via EFS Web

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Sir:

This appeal is taken from the final action mailed September 21, 2008. In support of the Notice of Appeal filed March 21, 2008, the present Appeal Brief is presented.

I. Real Party in Interest

The real party in interest is the assignee, VODAPHONE GROUP PLC.

II. Related Appeals and Interferences

The applicants, the assignee and the undersigned attorney are not aware of any related appeals and interferences.

III. Status of Claims

Claims 1-24 stand rejected and are pending and on appeal herein.

IV. Status of Amendments

A Response to the final Office Action was filed on February 22, 2008, however, no amendments to the claims were made therein. Subsequently, an Advisory Action was mailed

on March 21, 2008 indicating that the arguments set forth in the February 22, 2008 Response had been considered, but were unpersuasive.

V. Summary of Claimed Subject Matter

Independent claim 1 relates to a dialing error notification system for visiting subscribers in a visited mobile telephony network (*See visited mobile telephony network VPLMN 100 at page 12, lines 27-29 and Fig. 4, for example*), a visiting subscriber (*See page 13, lines 12-15, for example*) being a subscriber from a home mobile telephony network (*See home mobile telephone network HPLMN 200 described at page 12, lines 30-33 and shown in Fig. 4, for example*) different from the visited mobile telephony network (*See visited mobile telephony network VPLMN 100 at page 12, lines 27-29 and Fig. 4, for example*). The dialing error notification system includes a first node of the visited mobile telephony network comprising apparatus for analysing a number dialed by the visiting subscriber (*See the MSC/VLR elements 5 and 7 of Fig. 4 and page 13, lines 12-15, for example*) and determining whether said dialed number complies with at least one predetermined error criterion (*See SCP 11 of Figs. 4-5 described at page 13, line 20 to page 14, line 4, for example*); a first apparatus for determining the identity of the home mobile telephony network based on the International Mobile Subscriber Identity of the visiting subscriber (*See page 13, lines 14-16 and step S9 of Fig. 7 and page 22, lines 8-12*); and a second apparatus for sending a short message with a dialing error notification to the visiting subscriber if said dialed number complies with at least one predetermined error criterion (*See SS7-IP SDP gateway 16, server 18 and SMSC 10 of Figs. 4-6 and page 14, line 25 to page 15, line 8*), wherein the short message is sent based on the determined identity of the home mobile telephony network (*See page 19, line 34 to page 20 line 4 and step S11 of Fig. 7 and page 22, lines 19-23, for example*).

Independent claim 11 relates to a dialing error notification method for visiting subscribers (*See page 13, lines 12-15, for example*) in a visited mobile telephony network (*See visited mobile telephony network VPLMN 100 at page 12, lines 27-29 and Fig. 4, for example*) a visiting subscriber being a subscriber from a home mobile telephony network different (*See home mobile telephone network HPLMN 200 described at page 12, lines 30-33 and shown in Fig. 4, for example*) from the visited mobile telephony network. The method includes (a)

analysing in a first node of the visited mobile telephony network a number dialed by the visiting subscriber (*See the MSC/VLR elements 5 and 7 of Fig. 4 and page 13, lines 12-15, for example*) and determining whether said number dialed complies with at least one predetermined error criterion (*See SCP 11 of Figs. 4-5 described at page 13 line 20 to page 14, line 4, for example*); (b) determining the identity of the home mobile telephony network based on the International Mobile Subscriber Identity of the visiting subscriber (*See page 13, lines 14-16 and step S9 of Fig. 7 and page 22, lines 8-12*); (c) sending at least one short message to the visiting subscriber if said dialed number complies with at least one predetermined error criterion (*See SS7-IP SDP gateway 16, server 18 and SMSC 10 of Figs. 4-6 and page 14, line 25 to page 15, line 8, for example*), said short message comprising at least one dialing error notification, wherein the short message is sent based on the determined identity of the home mobile telephony network (*See page 19, line 34 to page 20 line 4 and step S11 of Fig. 7 and page 22, lines 19-23, for example*).

VI. Grounds of Rejection to be Reviewed

The following grounds of the rejection are presented for review:

1. Whether claims 1-24 were correctly rejected under 35 U.S.C. §112, first paragraph, for failing to meet the written description requirement.
2. Whether claims 1-23 were correctly rejected under 35 U.S.C. §103(a) as being unpatentable over Gibson et al., U.S. Patent No. 6,775,249 in view of Raviv et al., U.S. Patent Application Publication No. 2002/0164983 and in view of Pirkola et al., U.S. Patent No. 6,611,516.
3. Whether claim 24 was correctly rejected under 35 U.S.C. §103(a) as being unpatentable over Gibson et al., U.S. Patent No. 6,775,249 in view of Raviv et al., U.S. Patent Application Publication No. 2002/0164983, in view of Pirkola et al., U.S. Patent No. 6,611,516, and in view of Lohtia et al., U.S. Patent Publication No. 2003/0211845.

VII. Argument

Rejection of Claims 1-24 under 35 U.S.C. § 112, First Paragraph

Claims 1-24 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to meet the written description requirement. Specifically, the Examiner argues that the written description requirement is not satisfied because the phrase “wherein the short message is sent based on the determined identity of the home mobile telephony network” in claims 1 and 11 is not fully supported by Applicant’s disclosure. This is incorrect.

As was explained at page 3 of Applicant’s previous Response dated February 22, 2008, support for this claim feature is found in the present application at least at page 22, lines 8-25 and Fig. 7, Steps S9-S12. More specifically, page 22, lines 8-9 discusses that at S9 (shown in Fig. 7) the IMSI (International Mobile Subscriber Identity) is checked and matched to an HPLMN (home network). At page 22, lines 13-14, the application discusses that at step S11 a short message code corresponding to a specific short message according to the operator of the HPLMN 200 (the home network) corresponding to the subscriber . . . is loaded. At step S12, the message is sent. Thus, the recitation “wherein the short message is sent based on the determined identity of the home mobile telephony network” in claims 1 and 11 is fully supported by Applicant’s disclosure.

In the Advisory Action, the Examiner argues that applicant failed to provide the specific paragraphs where the disputed claim term originated. This is clearly not true since Applicant’s previous Response clearly cited the above discussed portions of the present application. In addition, it is noted that this rejection was also discussed in the telephone conference between the Examiner and Applicant’s representative on October 24, 2007. During this interview, the same portions of specification were also identified by Applicant’s representative.

Thus, it is clear that claims 1 and 11 are fully supported by the specification of the present application.

Rejection of Claims 1-23 under 35 U.S.C. § 103

Claims 1-23 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Gibson et al., U.S. Patent No. 6,775,249 in view of Raviv et al., U.S. Patent Application Publication No. 2002/0164983 and in view of Pirkola et al., U.S. Patent No. 6,611,516.

As has been explained previously, claims 1 and 11 require a dialing error notification system (or method per claim 11) for visiting subscribers in a visited mobile telephony network, in which the identity of the home mobile telephony network is determined based on the IMSI (International Mobile Subscriber Identity) of the visiting subscriber, and a short message with a dialing error notification is sent to the visiting subscriber, wherein the short message is sent based on the determined identity of the home mobile telephony network.

The Examiner has conceded both in the final Office Action and again in the Advisory Action that Gibson fails to disclose a visiting subscriber in a visited network, or that a fax message sent to user 100 is a short message or that the identity of the user 100 is based on the International Mobile Subscriber Identity of the visiting subscriber. The Examiner relies on Raviv as allegedly disclosing a visiting subscriber, a visited network and a short message service and further relies on Pirkola as disclosing identifying and associating a terminal to a network using identification information such as MSIDN and IMSI. This is incorrect.

Raviv discloses a system in which the identification of a roaming subscriber is accomplished with the CLI, that is, using the MSISDN. However, this does not identify the operator or home network to which the subscriber belongs. Indeed, the Examiner does not appear to assert that it does .

Pirkola discloses a gateway function that performs a dynamic mapping function between a PSTN (Public Switched Telephone Network)/cellular address and an MIPTN (Mobile IP-Telephony Network) addressee to allow registration and call delivery for subscribers roaming between the cell network and the MIPTN (Pirkola, Abstract). Pirkola further discloses that the gateway function supports internetwork roaming by storing a dynamic mapping or correspondence between a subscriber identification (for example IMSI or MSISDN) and an address of a Visited Function where the subscriber has roamed to allow delivery of calls or SMS short messages via the gateway function to a subscriber roaming between the networks (Pirkola, column 4, lines 10-32).

However, there is no disclosure in any of Gibson, Raviv and Pirkola, of determining the identity of the home mobile telephony network based on the IMSI of the visiting subscriber, and then sending a short message with a dial error notification to the visiting subscriber based on the determined identity of the home mobile telephony network, as required by claims 1 and 11 of the present application.

As discussed, Pirkola discloses using the IMSI to reach a roaming subscriber to deliver an SMS short message. However, there is no disclosure in Pirkola of sending a short message based on a determined identity of the home mobile telephony network of the visiting subscriber, as required by claim 1. Thus, the feature of sending a dialing error notification short message based on the determined identity of the home mobile telephony network is not disclosed or suggested by any of the cited references. It is this feature, determining the home network based on the roaming subscriber's IMSI, that allows a system according to the present invention to tailor the dialing error notification short message to be sent, and to determine, based on the home mobile telephony network of the visiting subscriber, whether the visiting subscriber has a right to a dialing error notification service. As discussed, the home mobile telephony network is determined with reference to the IMSI of the visiting subscriber.

Gibson, Raviv and Pirkola, even in combination, simply do not disclose or suggest sending a dialing error notification short message with reference to the home mobile telephony network of the visiting subscriber, let alone with reference to the home mobile telephony network as determined based on the IMSI.

Further, even if the cited references did disclose this feature, the Examiner has failed to identify any apparent reason why one of ordinary skill in the art would modify the references as suggested by the Examiner to arrive at the proposed combination. The Examiner alleges that combining Pirkola into the system of Gibson and Raviv would have been obvious to a person of ordinary skill in the art for the benefit of achieving a system that includes dynamic mapping of subscriber identification, and allows subscribers to roam between an IP-telephony network and cellular network, citing column 1, lines 19-24 and column 4, lines 10-33 of Pirkola (Office Action, page 7).

It is respectfully submitted that, even if such a motivation was set forth in the cited art, it would have been insufficient to arrive at Applicant's invention, because the concept

of using IMSI to determine the home mobile telephony network of the visiting subscriber, and then sending the dialing error notification short message based on the home mobile telephony network are not suggested or motivated for in the cited art. Among the problems recognized and solved by Applicant's claimed invention, as claimed in claims 1 and 11, are generating an error message and providing to a visiting mobile subscriber away from the subscriber's home mobile network an error message that is tailored (for example, the language of the message may be set in accordance with the language of the country of the home network), or not sent at all, based on the home network of the mobile subscriber (as determined with reference to the IMSI). The prior art cited by the Examiner simply does not disclose, or suggest, these features.

Thus, it is believed that independent claims 1 and 11 are patentable over the prior art for at least the reasons described above.

Claims 2-10 depend from claim 1 and claims 12-23 depend from claim 11, and therefore, claims 2-10 and 12-23 are also patentably distinguishable over the cited art for at least the reasons described above.

Further, with respect to claims 4 and 17, it is noted that claims 4 and 17 require selecting text for the short message based on the identity of the home mobile telephony network. The Examiner alleges that it would have been obvious based on Raviv, Gibson and Pirkola to achieve "a system that provides short message service in a visited mobile network." (Final Office Action, page 6).

First, as discussed above, there is no suggestion to provide short message service in a visited mobile network as is claimed in claims 1 and 11. Further, none of the references cited by the Examiner take into account the home mobile telephony network with respect to the short message at all, much less, selecting text for the short message based on the identity of the home network, as required by claims 4 and 17. That is, tailoring the error notification short message based on the home mobile telephony network is also not shown or suggested.

Claim 13 requires, based on the identity of the home mobile telephony network, determining whether the visiting subscriber has a right to a dialing error notification service. With respect to claim 13, the Examiner alleges that the features thereof would have been an inherent feature of services provided as disclosed in Gibson, Fig. 1, because "checking whether a

subscriber is entitled to receive a service prior to offering the service is common procedure in telecommunication network.” (Final Office Action, page 9).

As discussed, Gibson and the other cited art does not disclose or suggest determining whether an error notification short message is to be sent by referring to the home mobile telephony network of the roaming subscriber (as determined with reference to the IMSI). For a finding of “inherency,” it is necessary to show that the feature in question would have been necessarily present in the cited art. No such showing has been made. Thus, the Examiner’s reliance on inherency with respect to claim 13 is inappropriate.

Thus, claims 4, 13 and 17 are also believed to be patentable over the prior art for the reasons discussed above.

Rejection of Claim 24 under 35 U.S.C. § 103

Claim 24 is rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Gibson, Raviv, Pirkola and further in view of Lohtia et al., U.S. Patent Application Publication No. 2003/0211845.

Claim 24 depends on claim 11. As is noted above, claim 11 is believed to be patentable over Gibson, Raviv and Pirkola. Claim 11 is also patentable over Gibson, Raviv, Pirkola and Lohtia, since none of these references show or suggest the patentable features of claim 11 described above.

For at least the foregoing reasons, allowance of claims 1-24 is requested.

VIII. Conclusion

In light of the remarks herein, it is respectfully submitted that claims 1-24 are patentable over the cited art and are in condition for allowance.

Credit card payment in the amount of \$540.00 is submitted via EFS-WEB to cover the 37 C.F.R. §41.20(b)(2) fee for filing an Appeal Brief is enclosed. Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 15-0700.

If this communication is filed after a shortened statutory time period has elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned,

under 37 C.F.R. §1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. §1.135. The fee under 37 C.F.R. §1.17 should be charged to our Deposit Account No. 15-0700.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

Respectfully submitted,

THIS CORRESPONDENCE IS BEING
SUBMITTED ELECTRONICALLY
THROUGH THE PATENT AND
TRADEMARK OFFICE EFS FILING
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APPENDIX

The claims on appeal are:

1. (Previously Presented) A dialing error notification system for visiting subscribers in a visited mobile telephony network, a visiting subscriber being a subscriber from a home mobile telephony network different from the visited mobile telephony network, the dialing error notification system comprising:

a first node of the visited mobile telephony network comprising apparatus for analysing a number dialed by the visiting subscriber and determining whether said dialed number complies with at least one predetermined error criterion;

a first apparatus for determining the identity of the home mobile telephony network based on the International Mobile Subscriber Identity of the visiting subscriber; and

a second apparatus for sending a short message with a dialing error notification to the visiting subscriber if said dialed number complies with at least one predetermined error criterion,

wherein the short message is sent based on the determined identity of the home mobile telephony network.

2. (Previously Presented) The system according to claim 1, wherein said first node is a Service Control Point of the visited mobile telephony network.

3. (Previously Presented) The system according to claim 1, comprising:

a third apparatus for sending a message to an SS7-IP gateway from the first node of the visited mobile telephony network, said message being a message with instructions to send the short message;

a fourth apparatus for sending an http message to a short message sending server from said SS7-IP gateway, said http message being a message with instructions to send the short message;

the second apparatus for sending the short message addressed to the visiting subscriber to a Short Message Service Centre of the visited network from said short message sending server, upon receipt of said instructions by said short message sending server.

4. (Previously Presented) The system according to claim 1, further comprising apparatus for selecting text for the short message based on the identity of the home mobile telephony network as

determined by International Mobile Subscriber Identity of the visiting subscriber.

5. (Previously Presented) The system according to claim 3, wherein the short message sending server includes a database with short message texts and apparatus for selecting a short message text based on an indicator code included in the http message received from the SS7-IP gateway.

6. (Previously Presented) The system according to claim 3, wherein the http message includes at least one indicator code of a short message text and the mobile telephone number of the visiting subscriber to whom the short message is to be sent.

7. (Previously Presented) The system according to claim 1, further comprising a fifth apparatus for sending an initial control set-up message to the first node, the initial control set-up message comprising at least the following data: the telephone number dialed by the visiting subscriber, the mobile telephone number of the visiting subscriber, and the International Mobile Subscriber Identity of the visiting subscriber.

8. (Previously Presented) The system according to claim 7, wherein the fifth apparatus for sending an initial control set-up message to the first node is comprised in a Mobile Switching Centre of the visited mobile telephony network, such that when a visiting subscriber in a cell corresponding to the Mobile Switching Centre dials a telephone number, said Mobile Switching Centre sends the initial control set-up message to the first node.

9. (Previously Presented) The system according to claim 1, further comprising a control apparatus for preventing a second short message with a dialing error notification from being sent to a visiting subscriber if the time elapsed since a first short message with a dialing error notification was sent to said visiting subscriber is less than a predetermined minimum time.

10. (Previously Presented) The system according to claim 1, wherein the error criteria include at least one criterion selected from a group consisting of the following criteria:

a number dialed begins with "+" followed by a sign different from a digit C, $1 \leq C \leq 9$;

a number dialed begins with "00" followed by a sign different from a digit C, $1 \leq C \leq 9$;
a number dialed is a 9-digit number beginning with a digit which is not 6, 7, 8 or 9;
a number dialed begins with "+" or "00" followed by a country code followed by an escape code not applicable for international dialing to said country; and
a number dialed is a number with fewer than 9 digits which is not a short code.

11. (Previously Presented) A dialing error notification method for visiting subscribers in a visited mobile telephony network, a visiting subscriber being a subscriber from a home mobile telephony network different from the visited mobile telephony network, the method comprising the steps of:

(a) analysing in a first node of the visited mobile telephony network a number dialed by the visiting subscriber and determining whether said number dialed complies with at least one predetermined error criterion;

(b) determining the identity of the home mobile telephony network based on the International Mobile Subscriber Identity of the visiting subscriber;

(c) sending at least one short message to the visiting subscriber if said dialed number complies with at least one predetermined error criterion, said short message comprising at least one dialing error notification,

wherein the short message is sent based on the determined identity of the home mobile telephony network.

12. (Previously Presented) The method according to claim 11, wherein the first node is a Service Control Point of the visited mobile telephony network.

13. (Previously Presented) The method according to claim 11, further comprising:

(d) based on the identity of the home mobile telephony network of the visiting subscriber as determined by the International Mobile Subscriber Identity of the visiting subscriber, determining whether the visiting subscriber has a right to a dialing error notification service.

14. (Previously Presented) The method according to claim 13, wherein steps (b) and (d) are carried out before step (c).

15. (Previously Presented) The method according to claim 14, wherein steps (b) and (d) are carried out before step (a).

16. (Previously Presented) The method according to claim 11, wherein step (c) comprises:
sending a message to an SS7-IP gateway from a Service Control Point, said message being a message with instructions to send the short message;

sending an http message to a short message sending server from said SS7-IP gateway, said http message being a message with instructions to send the short message; and

sending the short message addressed to the visiting subscriber to a Short Message Service Centre of the visited network from said server, upon receipt of said instructions by said short message sending server.

17. (Previously Presented) The method according to claim 11, wherein text for the short message is selected based on the identity of the home mobile telephony network as determined by the International Mobile Subscriber Identity of the visiting subscriber.

18. (Previously Presented) The method according to claim 16, wherein text for the short message is selected based on the identity of the home mobile telephony network as determined by the International Mobile Subscriber Identity of the visiting subscriber, and the text is selected from a plurality of texts stored in a database of the short message sending server based on an indicator code included in the http message received from the SS7-IP gateway.

19. (Previously Presented) The method according to claim 16, wherein the http message includes at least one indicator code indicating a short message text and the mobile telephone number of the visiting subscriber to whom the short message is to be sent.

20. (Previously Presented) The method according to claim 11, further comprising a first step comprising sending an initial control set-up message to the first node, the initial control set-up message comprising at least the following data: the telephone number dialed by the visiting subscriber, the mobile telephone number of the visiting subscriber, and the International Mobile Subscriber Identity of the

visiting subscriber.

21. (Previously Presented) The method according to claim 20, wherein the initial control set-up message is sent from a Mobile Switching Centre of the visited mobile telephony network corresponding to a cell in which the visiting subscriber is located.

22. (Previously Presented) The method according to claim 11, further comprising before sending a short message with a dialing error notification to the visiting subscriber, checking that a predetermined minimum time has elapsed since a previous short message with a dialing error notification was sent to the same visiting subscriber, and if said predetermined minimum time has not elapsed, the short message with a dialing error notification is not sent.

23. (Previously Presented) The method according to claim 11, wherein the error criteria include at least one criterion selected from a group comprising the following criteria:

- a number dialed begins with "+" followed by a sign different from a digit C, $1 \leq C \leq 9$;
- a number dialed begins with "00" followed by a sign different from a digit C, $1 \leq C \leq 9$;
- a number dialed is a 9-digit number beginning with a digit which is not 6, 7, 8 or 9;
- a number dialed begins with "+" or "00" followed by a country code followed by an escape code not applicable for international dialing to said country; and
- a number dialed is a number with fewer than 9 digits which is not a short code.

24. (Previously Presented) The method according to claim 11, wherein the method is only carried out for visiting subscribers who are not provided with a CAMEL service O-CSI flag.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None